

CLAIM SET AS AMENDED

1. (Original) Apparatus for cutting sheet materials consisting of predominantly mineral substances, such as laminated safety glass, to dimensions adjustable relative to a reference edge of the material, comprising a frame mounting oppositely disposed cutting tools acting simultaneously on both major planes of the material, as well as elements both for guiding said apparatus along the reference edge of the material while cutting the same and for the universal handling of said apparatus regardless of the local and/or geometric position of the material, characterized by the combination of the following features:

a) frame (2) has a cutting head (3) and arms (2.1) in a bifurcated configuration of which the mutual distance at the free ends is variable under tension;

b) the free ends of arms (2.1) have attached thereto cutting tools (3.1) forming the cutting head (3) and acting onto the material planes (5.1) to be cut by virtue of the bias exerted by arms (2.1);

c) cutting tools (3.1) have associated therewith first guide rolls (3.1.1) of which the positions are variable relative to material planes (5.1);

d) one of said arms (2.1) has integrated therewith a guide rail (2.3) on which is mounted a transverse element (4) adjustable and fixable in the longitudinal direction for setting the cutting distance from the reference edge; and

e) transverse element (4) has thereon a guide head (4.1) which straddles the reference edge of the material (5) to be cut, is guided by and along said reference edge and is biased against material (5) to adjust to the thickness thereof, said transverse element (4) also

including a handle (4.2) for the manipulation and the direct control of apparatus (1) by the user handling it.

2. (Currently Amended) ~~Apparatus~~ The apparatus as in claim 1, ~~characterized in that~~ wherein bifurcated arms (2.1) comprise a pair of U-shaped planar elements (2.2) held at a mutual distance by connecting elements (2.4) to form a lightweight frame (2).

3. (Currently Amended) ~~Apparatus~~ The apparatus as in claim 1 ~~or 2, characterized in that~~ wherein cutting tools (3.1) at the free ends of arms (2.1) comprise cutting wheels (3.1.2).

4. (Currently Amended) ~~Apparatus~~ The apparatus as in ~~any one of claims 1 to 3,~~ claim 1, wherein first guide rolls (3.1.1) maintain cutting tools (3.1) in positions suited, on the one hand, to provide an optimum guiding pressure relative to the cutting planes and, on the other hand, to ensure a minimum required resistance for cutting.

5. (Currently Amended) ~~Apparatus~~ The apparatus as in ~~any one of claims 1 to 4,~~ claim 1, wherein cutting tools (3.1) secured at the free ends of arms (2.1) form constructionally similar parts each comprising:

a) supporting bodies (3.1.3) at least one of which is adjustable at the free end of an arm (2.1) in vertical position relative to the cutting plane;

b) travelling bodies (3.1.4) secured to supporting body (3.1.3) and mounting first guide rolls (3.1.1) and cutting tools (3.1) positioned between said first guide rolls (3.1.1), with the mutual distance of supporting bodies (3.1.3) being variable at least by the resilient bias of arms (2.1),

c) a distance between first guide rolls (3.1.1) and cutting tool (3.1) (seen in a direction perpendicular to the plane of material (5)) which ensures a positive guiding pressure and the least required resistance for obtaining a proper cutting pressure.

6. (Currently Amended) ~~Apparatus~~ The apparatus as in ~~any one of claims 1 to 5,~~ characterized ~~that~~ claim 1, wherein guide rail (2.3) has a scale or graduation (2.3.1) thereon.

7. (Currently Amended) ~~Apparatus~~ The apparatus as in ~~any one of claims 1 to 5,~~ characterized ~~in that~~ claim 1, wherein guide head (4.1) has guide elements (4.1.1) with second and third guide rolls (4.1.2, 4.1.3), said guide elements corresponding to the reference edge and being adjustable towards each other and disposed on both cutting planes.

8. (Currently Amended) ~~Apparatus~~ The apparatus as in ~~any one of claims 1 to 7,~~ characterized ~~by~~ claim 1, wherein handle (4.2) being provided on one of guide elements (4.1.1) to embrace one of arms (2.1).

9. (Currently Amended) ~~Apparatus~~ The apparatus as in ~~claims 1, 5 and 6,~~
~~characterized by claim 1, wherein~~ said first, second and third guide rolls (3.11, 4.1.2, 4.1.3)
having wear-resistant and/or friction-reducing coatings at least on their races.

10. (Currently Amended) ~~Apparatus~~ The apparatus as in ~~any one of claims 1 to 10,~~
~~characterized by claim 1, wherein~~

- a) at least one of the constructional groupings and/or one of the component parts referred to hereinabove being designed to be replaceable and
- b) at least frame (2) being variable in constructional size by comprising sections not designated and shown.

11. (Currently Amended) ~~Apparatus~~ The apparatus as in claim 7, ~~characterized by~~
wherein the distance between guide elements (4.1.1) of guide head (4.1) being variable articulatedly against a force exerted by at least one spring element (not shown).

12. (Currently Amended) ~~Apparatus~~ The apparatus as in ~~claims 7 and 11,~~
~~characterized by claim 7, wherein~~ at least one guide element (4.1.1) being provided for movement on guide rail (2.3) as a component part of transverse element (4.1), said guide element also having the aforesaid handle (4.2).

13. (Currently Amended) ~~Apparatus~~ The apparatus as in ~~any one of claims 1 to 13,~~
~~characterized in that,~~ claim 1, wherein for setting the cutting distance from the reference edge
of material (5) to be cut, transverse element 4, which is mounted on guide rail (2.3) in a
manner to be adjustable and fixed in place,

- a) is adapted to be fixed in position at a reference point by means not illustrated,
- b) with cutting tools (3.1) adapted to perform arcuate cuts on material (5) by
correspondingly manipulating and moving apparatus (1),

14. (Currently Amended) ~~Apparatus~~ The apparatus as in ~~any one of claims 1 to 13,~~
~~characterized by~~ claim 1, wherein

- a) transverse element (4) and the reference edge of material (5) having therebetween
guide-block-like inserts (not illustrated herein) of any curved shape and
- b) apparatus (1) being manipulated and guided to cause cutting tools (3.1) to perform
curved cuts on material (3) as guided by said blocks.

15. (Currently Amended) ~~Apparatus~~ The apparatus as in ~~any one of claims 1 to 14,~~
~~characterized in that~~ claim 1, wherein frame (2) has a cross-sectional shape tapering from its
closed end to its front end forming the free ends of arms (2.1) accepting cutting head (3),
with the rear end of frame (2) being configured to form a second handle (not illustrated) for
left- or right-handed manipulation.